

AMENDMENT TO THE CLAIMS

1. (Currently Amended) A burn-in oven having a heat control system comprising an oven chamber, at least one burn-in board supporting a plurality of devices under test, ~~a fan board spaced from the burn-in board and overlying the devices under test, a separate fan outlet opening through the fan board overlying each device under test,~~ a separate controllable fan for providing a flow of air ~~through each opening~~ onto an associated device under test, ~~a sealing plate at one end of a space above~~between the burn-in board carrying the device under test and open to the respective~~the overlying fan board,~~ and ~~at least one end of the space having an adjustable damper movable to adjust the size of the opening to the space at the~~ at least one end, and a source of cooling air at one end ~~of~~ to the oven chamber, and an exhaust for the cooling air from the oven chamber at an opposite end whereby a flow of cooling air is passed through the space open to each of the separate fans in the burn-in oven~~across the upper surface of the fan board,~~ and ~~selectively through the space when the damper is opened.~~

2. (Currently Amended) The burn-in oven of claim 1, including a damper movable to adjust a size of a damper opening for the airflow, and a controller for controlling the opening of the damper in response to a selected parameter.

3. (Currently Amended) ~~The burn-in oven of claim 1, wherein~~A heat control system for devices in a burn-in oven comprising an oven chamber, at least one burn-in board supporting a plurality of devices under test, a separate socket carrying each device under test, a separate fan overlying each socket and device under test, each fan being separately controllable for providing a flow of air from an air source in the burn-in oven onto its associated device under test, each device under test comprises a socket, holding a device under test, a heater on each~~the~~ socket to heat the associated device under test, a temperature sensor associated with each socket to provide a temperature signal indicating the temperature of the associated device under test, and a controller for controlling the fan at the fan outlet and the heater for each such device under test to maintain temperature at each device under test at a selected level.

4. (Currently Amended) The burn-in oven of claim ~~1~~3, wherein said separate fans each have a fan housing, a separate electric motor driving each fan ~~in each housing~~, and the housings each having an inlet ~~opening~~ for permitting air to be driven by the fan through ~~the~~a fan outlet onto an ~~aligned~~associated device under test.

5. (Currently Amended) The burn-in oven of claim 1, wherein each device under test comprises a socket, an integrated

circuit in the socket, and said socket having heat radiating fins thereon facing toward the respective fan opening.

6.(Currently Amended) The burn-in oven of claim 1, wherein said source of cooling air comprises a plenum chamber at the one end of said oven chamber, a second fan providing an airflow to the plenum chamber, and the second fan receiving a return airflow from the oven chamber.

7.(Currently Amended) The burn-in oven of claim 1, wherein there are a plurality of oven chambers, and each of the chambers has at least one burn-in board supporting a plurality of devices under test, and comprising a separate fan board spaced from each burn-in board to form the space, a separate fan outlet opening through the fan board overlying each device under test on an associated burn-in board.

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9.(Currently Amended) The burn-in oven of claim 1, wherein ~~the one end of~~ said oven chamber has a heat exchanger for cooling air passing therethrough, said cooling air passing through the heat exchanger before entering the space.

10.(Currently Amended) The burn-in oven of claim 1, wherein there are a series of vertically stacked burn-in boards in the oven chamber, each with an associated fan board spaced from the burn-in board on a side of the burn-in boards toward the

devices under test, each fan being supported on a fan board for directing cooling air through an opening in the respective fan board onto a device under test, and wherein each burn-in board forms a duct in combination with an underlying fan board that is associated with a burn-in board on an opposite side of the fan board from the duct, the cooling air cooling the surface of the burn-in board facing the underlying the fan board.

11.(Original) The burn-in oven of claim 10, wherein there are a series of oven chambers side-by-side, and a heat exchanger between each of the adjacent oven chambers, the airflow from one oven chamber passing to one other oven chamber and through the heat exchanger between the one chamber and the other chamber.

12.(Currently Amended) In combination, a burn-in oven, and a plurality of first ~~and second~~ trays in the oven, combined with a cooling ~~air flow~~ airflow source, the burn-in oven defining a compartment, ~~a~~ the plurality of first trays forming burn-in boards having devices under test mounted thereon in a preselected array; a plurality of ~~second trays comprising fan trays supports~~ spaced from each of the burn-in board trays on a side of each burn-in board tray so that the fan ~~trays supports~~ supports overlie the devices under test, ~~and form a~~ laterally extending space ~~between such being formed above each of the first trays, and comprising an airflow duct formed on a side of each fan tray by an overlying burn in board tray,~~ the

airflow ducts extending laterally across a surface of each fan ~~traysupport~~, a ~~plurality of~~ controllable fans mounted on each fan ~~tray~~ support and having a fan opening substantially directly overlying each underlying device under test on an associated burn-in board tray, ~~the space between each burn-in board tray and its associated overlying fan tray being adjustably operable,~~ a source of fluid flow on one lateral side of the airflow ducts ~~formed by the fan tray and an overlying burn-in board tray,~~ a controlled size opening from the cooling airflow source ~~of fluid to the space ducts,~~ and a controller for selectively controlling the operation of each fan as a function of a temperature signal provided from each of the devices under test.

13. (Currently Amended) The combination of claim 12, wherein the fan supports comprise fan trays spaced from each burn-in-board to form the space, and at least one adjustable damper for adjustably opening each respective space between the burn-in trays and ~~its overlying an associated~~ fan tray, the controller adjusting the position of the damper to provide a substantially constant bleed ~~air flow~~ airflow through the associated space.

14. (Original) The combination of claim 13, wherein said devices under test comprise sockets supporting an integrated circuit under test, a finned heat exchanger on the socket, said finned heat exchanger extending into the space between each burn-in board tray and its associated overlying fan tray.

15.(Currently Amended) The combination of claim 13, including a heat exchanger for cooling ~~air flow~~ airflow entering the ducts on one end of the burn-in oven.

16.(Currently Amended) The combination of claim 12, wherein said burn-in oven has a blower for providing the flow of cooling air to an inlet end of said ducts ~~formed with said burn-in board trays and the fan trays~~, and a flow passageway carrying air from said blower to the inlet end to provide cooling air to each of the ducts.

17.(Original) The combination of claim 14 and individual heaters for heating each of the devices under test, said controller receiving a temperature signal from the respective device under test, and controlling its associated fan and heater to maintain the temperature sensed at a desired range.

18.(New) An apparatus for cooling a device under test in a burn-in oven having a source of air, a support adapted to mount on a burn-in-board and supporting an integrated circuit comprising a device under test, a heat exchanger on the support, said heat exchanger extending into an airflow space, a temperature sensor for sensing the temperature of the device under test, a fan supported relative to the device under test to direct airflow onto the support, the fan being controllable to regulate such airflow onto the support as a function of the temperature sensed by the temperature sensor.

19.(New) The apparatus of claim 18, wherein said support comprises a socket for the integrated circuit, and the heat exchanger is a finned heat exchanger.

20.(New) The apparatus of claim 18, wherein said temperature sensor is mounted on the support and has a sensing element adjacent to the integrated circuit on the support.

21.(New) A method of regulating the temperature of a device under test that is supported on a support having a heat exchanger in heat conducting relationship to the device under test, a heater for providing heat to the device under test, and a temperature sensor for providing a temperature signal indicating the temperature of the device under test, the method comprising the steps of providing a source of cooling airflow, providing a fan mounted to direct cooling airflow to the device under test, and controlling the fan to direct cooling airflow to the device under test as a function of the temperature sensed to maintain the sensed temperature within a selected range.

22.(New) The method of claim 21 including the step of controlling a heater on the support in response to the temperature signal in connection with the fan to maintain the sensed temperature within the selected range.

23.(New) The method of claim 22, wherein the support is mounted in a burn-in oven, and further comprising directing cooling air onto the heat exchanger when the temperature sensed is higher than the selected range.